

Docket No.: END920000187US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Hall et al.

)Examiner: Vu, QNH.

Serial No.: 09/884,778

)Art Unit: 2841

Filing Date: 6/19/01

Title: **METHOD AND APPARATUS TO ESTABLISH CIRCUIT LAYERS  
INTERCONNECTIONS**

Commissioner for Patents  
U.S. Patent and Trademark Office  
P.O. Box 2327  
Attn.: Box Non-Fee Amendments  
Arlington, VA 22202

AMENDMENT

Sir:

In response to the Office Action mailed December 5, 2001, please amend the above-identified patent application as follows:

☒ IN THE DRAWINGS:

Please amend the drawings in accordance with the Request for Drawing Correction attached hereto.

IN THE CLAIMS:

Please amend the claims as follows:

*SUB B2*  
21. (Amended) A method comprising:

providing an opening in a laminate; and

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pressing a conductive element into the opening, wherein the conductive element includes an inner element covered by an outer element.

22. (Original) The method of claim 21, wherein the opening is a hole.

23. (Original) The method of claim 21, wherein the conductive element is a sphere.

24. (Original) The method of claim 21, wherein the conductive element is a cylinder.

508 63  
A2 } 27. (Amended) A structure comprising:

a conductive element embedded into a laminate, wherein the conductive element includes an inner element covered by an outer element.

28. (Original) The structure of claim 27, further including an opening in the laminate that the conductive object is pressed into.

29. (Original) The structure of claim 28, wherein the opening is a hole in the laminate.

30. (Original) The structure of claim 27, wherein the conductive element is a sphere or a cylinder.

31. (Amended) The structure of claim 27, wherein the outer element of the conductive element is a material selected from the group consisting of: glass, copper, brass, and bronze.

32. (Original) The structure of claim 27, wherein the laminate is selected from the group consisting of

a2  
end epoxy, cyanate-epoxy blend, and glass reinforced carrier.

Please add the following new claims:

a3  
33. (New) The method of claim 21, wherein the inner element of the conductive element comprises a material selected from the group consisting of: glass, rubber and plastic.

34. (New) The method of claim 21, wherein the outer element of the conductive element comprises a material selected from the group consisting of: copper, brass, gold and bronze.

35. (New) The structure of claim 27, wherein the inner element of the conductive element comprises a material selected from the group consisting of: glass, rubber and plastic.

#### REMARKS

Claims 1-32 are pending in this application. Claims 1-20, 25 and 26 have been withdrawn from consideration due to a telephone election made by Lawrence R. Fraley on November 14, 2001. By this amendment claims 21, 27 and 31 have been amended and new claims 33-35 have been added. Reconsideration and allowance in view of the amendments and the following remarks are respectfully requested.

Claims 27 and 29-32 are rejected under 35 U.S.C. §102(b) as being anticipated by Higgins, III (US 4,967,314). Claims 27 and 29-32 are rejected under 35 U.S.C. §102(b) as being anticipated by Reimann (US 4,663,497). Claims 21-24 and 27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Higgins or Reimann.

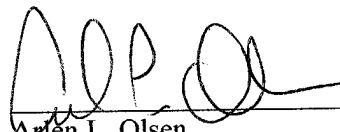
Applicants respectfully assert that the references, taken alone or in combination, fail to teach or suggest each and every feature of the claimed invention as required under §§102(b) and 103(a).

Applicants also assert that the Office has failed to establish a *prima facie* case of obviousness in support of the §103(a) rejections.

Higgins and Reimann both teach a conductive paste 40 or conductive material 38, respectively, formed of a single solid material, not an inner element covered by an outer element as required by claims 21 and 27 of the present invention. Accordingly, Applicants request withdrawal of the rejections.

Applicants respectfully submit that the entire application is in condition for allowance. However, should the Examiner believe anything further is necessary in order to place the application in better condition for allowance, or if the Examiner believes that a telephone interview would be advantageous to resolve the issues presented, the Examiner is invited to contact the Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

  
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Date: 2/6/2002

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